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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,782	12/24/2003	Hun Gun Park	YHK-0123	9459

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EXAMINER	
RIELLEY, ELIZABETH A	
ART UNIT	**PAPER NUMBER**
2879	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/743,782	PARK ET AL.	
	Examiner	Art Unit	
	Elizabeth A. Rielley	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *24 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,14-17,20-29,32-40 and 43-46* is/are rejected.

7)☒ Claim(s) *12,13,18,19,30,31,41,42,47 and 48* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ ~~Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)~~ Paper No(s)/Mail Date *2/3/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ ~~Notice of Informal Patent Application (PTO-152)~~
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because of several errors. A few of these are as follows: in Figure 21, "F" is not described in the specification and in Figure 12 does not show link "130" as described in the specification paragraph 9.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because a period is necessary after the term "brightness". Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: in paragraph 98, "link 36" should read "link 136".

Appropriate correction is required.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 10-11, 20-22, 28-29, 32-33, 39-40, and 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunio (JP 2001-325887).

8. In regard to claim 1, Kunio ('887) teaches a plasma display panel (figure 6), comprising: a transparent electrode pair (1a, 1b) spaced with a predetermined gap (20) there between within a discharge cell (16), said transparent electrode pair including: an expanding part having a width which enlarges towards a center of the discharge cell (not numbered); and a head part connected to the expanding part and having at least a substantially constant width (not numbered; see figure 6; paragraphs 34-43).

9. In regard to claim 2, Kunio ('887) teaches a stripe part positioned at the discharge cell (not numbered; the "bottle neck" connecting the expansion part to the metal electrode is a stripe[1] like object) and connected with the expanding part; and a metal electrode (2a, 2b) connected to the stripe part (see figure 6).

10. In regard to claim 3, Kunio ('887) teaches a stripe-shaped barrier rib (18) for dividing the discharge cell with an adjacent cell (16); and an address electrode (7) provided in parallel to the barrier rib (18) in a direction crossing the transparent electrode pair (1a, 1b; see figure 6).

11. In regard to claims 10-11, Kunio ('887) teaches a link (part of 1a, 1b; not numbered), overlapped with the barrier rib (18), for connecting the head parts (not numbered) of said adjacent discharge cells (16) to each other (see figure 6) wherein said link leans into ends of the opposite head parts formed at a predetermined depth extending from the end of the head part into the expanding part (see figure 6).

12. In regard to claim 20, Kunio ('887) teaches a plasma display panel (figure 6), comprising: a first transparent electrode (1a) having a first head part (not numbered) protruding from one side of a discharge

[1] http://www.m-w.com/cgi-bin/dictionary

cell (16) into a center of the discharge cell (see figure 6); and a second transparent electrode (1b) which includes an expanding part (not numbered) having a larger width as it goes from other side thereof within the discharge cell into the center of the discharge cell (see figure 6) in such a manner to be spaced by a predetermined gap (20) from the first transparent electrode (1a) within the discharge cell (16), and a second head part (not numbered) connected to the expanding part (not numbered) and having a substantially constant width (see figure 6; paragraphs 34-43).

13. In regard to claim 21, Kunio ('887) teaches a stripe part positioned at the discharge cell (not numbered; the "bottle neck" connecting the expansion part to the metal electrode is a stripe[2] like object) and connected with the expanding part; and a metal electrode (2a, 2b) connected to the stripe part (see figure 6).

14. In regard to claim 22, Kunio ('887) teaches a stripe-shaped barrier rib (18) for dividing the discharge cell with an adjacent cell (16); and an address electrode (7) provided in parallel to the barrier rib (18) in a direction crossing the transparent electrode pair (1a, 1b; see figure 6).

15. In regard to claims 28-29, Kunio ('887) teaches a first link (part of 1a; not numbered), overlapped with the barrier rib (18), for connecting the first head parts (not numbered) of said adjacent discharge cells (16) to each other (see figure 6), and a second link (part of 1b; not numbered), overlapped with the barrier rib (18), for connecting the first head parts (not numbered) of said adjacent discharge cells (16) to each other (see figure 6), wherein said links lean into ends of the opposite head parts formed at a predetermined depth extending from the end of the head part into the expanding part (see figure 6).

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[2] http://www.m-w.com/cgi-bin/dictionary

16. In regard to claim 32, Kunio ('887) teaches a plasma display panel (figure 6), comprising: a sustain electrode pair (3, 4) including transparent electrodes (1a, 1b) spaced with a predetermined gap (20) there between within a discharge cell (16), and metal electrodes (2a, 2b) connected to the transparent electrodes (1a, 1b), said transparent electrode including: a neck part connected to the metal electrode in such a manner to be separated between the discharge cell (not numbered; see figure 6); an expanding part connected to the neck part and having a width which enlarges as it goes into a center of the discharge cell (not numbered; see figure 6); and a head part connected to the expanding part and having a substantially constant width (not numbered, see figure 6).

17. In regard to claim 33, Kunio ('887) teaches barrier rib (18) for dividing the discharge cell with an adjacent cell (16); and an address electrode (7) provided in parallel to the barrier rib (18) in a direction crossing the sustain electrode pair (3, 4; see figure 6).

18. In regard to claims 39-40, Kunio ('887) teaches a link (part of 1a, 1b; not numbered), overlapped with the barrier rib (18), for connecting the head parts (not numbered) of said adjacent discharge cells (16) to each other (see figure 6) wherein said link leans into ends of the opposite head parts (see figure 6).

19. In regard to claim 45, Kunio ('887) teaches a plasma display panel (see figure 6), comprising: a pair of transparent electrodes (1a, 1b) having a predetermined gap (20) there between within a discharge cell (16), wherein said transparent electrode including: a stripe part (not numbered; the "bottle neck" connecting the expansion part to the metal electrode is a stripe[3] like object); a head part (not numbered) protruding from the stripe part into a center of the discharge cell within the discharge cell; and a link (not numbered; part of 1a, 1b) for connecting the head parts into the electrodes to each other (see figure 6).

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[3] http://www.m-w.com/cgi-bin/dictionary

20. In regard to claim 46, Kunio ('887) teaches a metal electrode (2a) connected to the stripe part (not numbered); and an address electrode (7) provided in parallel to a barrier rib (18) in a direction crossing the transparent electrode pair (1a, 1b; see figure 6).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio (JP 2001-325887) in view of Olge (US 3975725).

23. In regard to claim 4, Kunio ('887) teaches all the limitations set forth, as described above, including a neck part provided between the stripe part and the expanding part (all not numbered; the neck part being the upper part of the "bottle neck" of 1a and 1b which would connect the strip part, i.e. the lower part of the "bottle neck", and the expanding part; see figure 6). Kunio ('887) is silent regarding the limitations that the neck part having rounded sides. Olge ('725) discloses an electrode having a rounded neck for a plasma display panel (figure 1; 80) provided between a stripe part (40a) and a metal electrode (40r; column 2 lines 4-30) in order to simplify circuit operations of the panel (column 1 lines 45-47). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to

combine the plasma display of Kunio with the electrode formation of Olge. Motivation to combine would be to simplify circuit operations of the panel.

24. Claims 5-7, 23-25, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio (JP 2001-325887).

25. In regard to claims 5, 23, and 34, Kunio ('887) teaches all the limitations set forth, as described above, except that stripe part has a larger width than the metal electrode within a range of substantially 20 μm to 60 μm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a stripe part has a larger width than the metal electrode within a range of substantially 20 μm to 60 μm, since it has been held that where the general conditions of a claim are disclose in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *IN re Aller,* 105 USPQ 233.

26. In regard to claims 6, 24, and 35 Kunio ('887) teaches all the limitations set forth, as described above, including the expanding part having a first side; a second side being opposite to the first side and having a larger width than the first side; and an inclined plane provided between the first side and the second side (see figure 6). Kunio is silent regarding the limitation that first side set to a range substantially equal to 50% to 150% of a width of the address electrode. It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the first side at a range substantially equal to 50% to 150% of a width of the address electrode, since it has been held that where the general conditions of a claim are disclose in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *IN re Aller,* 105 USPQ 233.

27. In regard to claims 7, 25, and 36, Kunio ('887) teaches a width of the second side of the expanding part is larger than that of the first side. However, Kunio is silent regarding the limitation that the width of the second side of the expanding part is smaller than a distance between adjacent barrier ribs. It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the width of the second side of the expanding part is smaller than a distance between adjacent barrier ribs, since it has been held that where the general conditions of a claim are disclose in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *IN re Aller,* 105 USPQ 233.

28. Claims 8 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio (JP 2001-325887) in view of Shinoda et al (US 6195070).

29. Kunio ('887) discloses all the limitations set forth, as described above. Kunio is silent regarding the limitation of a distance between each end of the transparent electrode pair is approximately 50% to 95% of a pitch of the discharge cell. Shinoda et al teach a distance between each end of the transparent electrode pair is approximately 50% to 95% of a pitch of the discharge cell (column 4 lines 19-22) in order to improve the quality of the display. Hence it would have been obvious at the time of the invention to combine the plasma display of Kunio with the electrode pair of Shinoda. Motivation would be to improve the quality of the display.

30. Claims 9, 26-27, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio (JP 2001-325887) in view of Amemiya (US 5640068).

31. In regard to claims 9, 27, and 38, Kunio ('887) discloses all the limitations set forth, as described above. Kunio is silent regarding the limitation of a length of the head part is within a range equal to approximately 10% to 90% of a distance from the inner end of the stripe part until an end of the head part. Amemiya ('068) discloses a length of the head part (32; figure 7a; W1=200-250μm; column 4 lines 22-46) is within a range equal to approximately 10% to 90% of a distance from the inner end of the stripe part (Xi) until an end of the head part (32; le-lb=300-900μm) in order to decrease consumption power (column 1 lines 38-43). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the plasma display of Kunio with the electrodes of Amemiya. Motivation to combine would be to decrees consumption power.

32. In regard to claim 26, Kunio ('887) discloses all the limitations set forth, as described above. Kunio is silent regarding the limitation of a distance from the outer end of the stripe part until the end of the second head part is approximately 75% of a distance between the outer ends of the opposite stripe parts. Amemiya ('068) discloses a distance from the outer end of the stripe part (30) until the end of the second head part (32; le-lb+ge = 370-970μm; column 4 lines 22-46) is approximately 75% of a distance between the outer ends of the opposite stripe parts (L-2lb = 1100μm) in order to decrease consumption power (column 1 lines 38-43). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the plasma display of Kunio with the electrodes of Amemiya. Motivation to combine would be to decrees consumption power.

33. Claims 14-17, 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio (JP 2001-325887) in view of Sano et al (US 20020021090).

34. In regard to claims 14-15 and 43-44, Kunio ('887) discloses all the limitations set forth, as described above. Kunio is silent regarding the limitation the barrier rib includes a protrusion from each side thereof into a center of the discharge cell, said protrusion includes an inclined plane having a same slope as the inclined plane of the expanding part. Amatsuchi et al ('363) teach a barrier rib (29; figure 10) for a plasma display including a protrusion (see figure 10) from each side thereof into a center of the discharge cell, said protrusion includes an inclined plane having a same slope as the inclined plane of the expanding part (see figure 10; paragraphs 36-41) in order to decrees the energy supply to the display while increasing the light output. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the plasma display of Kunio with the barrier rib protrusions of Sano et al. Motivation to combine would be decrees the energy supply to the display while increasing the light. output.

35. In regard to claims 16-17 Kunio teaches a link (part of 1a, 1b; not numbered), overlapped with the barrier rib (18), for connecting the head parts (not numbered) of said adjacent discharge cells (16) to each other (see figure 6) wherein said link leans into ends of the opposite head parts (see figure 6).

Allowable Subject Matter

36. Claims 12-13, 18-19, 30-31, 41-42, and 47-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

37. The following is a statement of reasons for the indication of allowable subject matter: the reference of the Prior Art of record fails to teach or suggest the combination of the limitations as set for in

claims 12-13, 18-19, 30-31, 41-42, and 47-48, and specifically comprising the limitations: a link is formed at a predetermined depth extending from the end of the head part into the expanding part, and at a predetermined depth is approximately 10 to 200 μm.

Conclusion

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elizabeth Rielley

Examiner
Art Unit 2879

7/11/05
Maricelí Santiago
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